

Numerical solutions of first kind Linear Fredholm Integral Equations using quarter-sweep successive over-relaxation (QSSOR) Iterative Method

Abstract

In this paper, an experimental study is conducted to show the efficiency of the Quarter-Sweep Successive Over-Relaxation (QSSOR) iterative method by using the quadrature approximation equations to obtain numerical solutions of the first kind linear Fredholm integral equations. Furthermore, the derivation and implementation of the QSSOR method in solving first kind linear Fredholm integral equations are also presented. Numerical examples and comparisons with other existing methods are given to illustrate the effectiveness of the proposed method.